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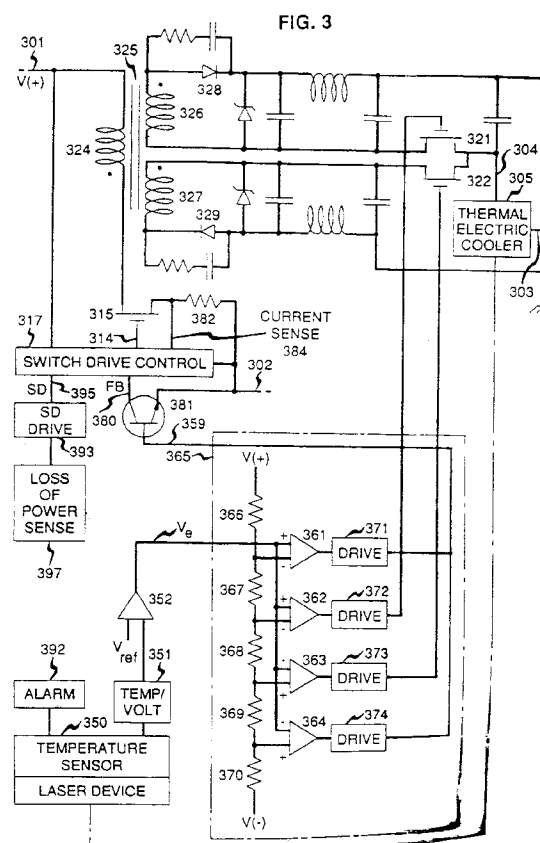
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(54) **Thermo-electric temperature control arrangement for laser apparatus.**

(57) A thermo-electric laser temperature control apparatus is driven by a switching mode control circuit (317, 315). Driving current polarity (via 321 or 322) determines if the thermo-electric apparatus (305) is operating in a heat absorbent or heat generating mode. A sequencing control circuit (361-364) is used in association with the control circuit to define operative ranges of the thermo-electric temperature control apparatus consistent with maintaining proper temperature for a linear operative range for the laser. Feedback circuitry permits precision control of the converter output to limit the operative temperature range of the laser to a small precisely defined temperature window.





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number

EP 91 30 8472

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	US-A-4 631 728 (B.SIMONS) * the whole document *	1,4	G05D23/19
Y	---	5	
Y	US-A-4 792 957 (M.KOLLANYI) * column 4, line 16 - line 22 *	5	
A	FR-A-2 536 596 (HITACHI LTD) * page 16, line 4 - page 19, line 19; figure 5 *	1	
A	US-A-4 821 273 (N.HORI) * column 8, line 7 - column 11, line 4; figure 8 *	1	
A	PATENT ABSTRACTS OF JAPAN vol. 12, no. 285 (E-642)(3132) 4 August 1988 & JP-A-63 60 579 ( MATSUSHITA ) 16 March 1988 * abstract *	5	
A	US-A-4 554 793 (J.HARDING) * column 5, line 32 - column 6, line 65; figures 2-3 *		<div>TECHNICAL FIELDS SEARCHED (Int. Cl.5)</div> H01S G05D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 MARCH 1993	Examiner KELPERIS K.
<div>CATEGORY OF CITED DOCUMENTS</div> <div> X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document </div> <div> T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  .....  &amp; : member of the same patent family, corresponding document </div>			

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